

of the differing classifications of PCS. It is important to bear in mind, however, that the early deployment of non-nomadic devices is not intended to delay the ultimate mission of the Entity, which is to work toward complete band clearing for both nomadic and non-nomadic applications.

**C. Proposed Rules To Govern Deployment of Nomadic and Non-Nomadic Unlicensed PCS Devices and Systems<sup>25</sup>**

**1. Definitions**

“Non-nomadic” unlicensed PCS devices and systems would be defined as fixed unlicensed PCS devices and systems intended for one-way or two-way communications over limited geographic areas. They comprise both voice and data applications such as wireless PBXs and wireless data local area networks (LANs). These systems may also include associated portable devices, provided that the portable devices have been designed to operate only within the service area of the associated non-nomadic base station. “Nomadic” unlicensed PCS devices and systems would be defined to embrace all other unlicensed PCS devices and systems.

**2. Equipment Authorization Requirements**

In light of the Commission’s historically cautious attitude toward authorization of intentional radiators on an unlicensed basis, the industry recommends that the Commission rely upon its more rigorous equipment authorization procedures, such as type acceptance or certification (instead of notification or verification) in promulgating its unlicensed PCS rules. Those rules would most probably require thorough testing of devices and submission of detailed data for FCC review prior to marketing.

In addition to compliance with the technical criteria established for unlicensed PCS, the authorization process for non-nomadic devices and systems will require three additional elements. The first such element is the incorporation of regulatory safeguards to ensure non-interference to existing 2 GHz microwave operations. The second element is high visibility labelling.

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<sup>25</sup> A draft of the proposed rules is appended at Tab D.

The final required element is a coordination process which would permit determination of the frequencies and geographic areas within which non-nomadic unlicensed PCS equipment can be deployed. Coordination would be required before initial deployment of a system as well as prior to any relocation of the coordinated equipment.

The coordination function, including maintenance of a database of microwave licensees and unlicensed device and system deployments as necessary, as well as the evaluation of new deployments, may be housed either at the FCC or at the Entity. This may be a particularly

that (1) the user must accept interference from all licensed microwave services, and (2) the user may not cause interference to licensed microwave services. In addition, the user's obligation to take all necessary steps to cure any incidence of interference in violation of those requirements, and the potential liability associated with failing to do so, should be explicitly stated. The user's instructions should contain similar representations.

#### **4. "Sunset" Provisions Upon Resolution of Interference Concerns**

In addition to incorporating the requirements detailed above, the Commission's equipment approval rules should provide a "sunset" provision which would retire the nomadic/non-nomadic classification after full band clearing, ensuring equal treatment of all unlicensed PCS devices and systems. Such a provision might be either self-executing or dependent on FCC action.

Moreover, UTAM recommends that the FCC's regulatory scheme incorporate two additional sunset provisions that acknowledge that the Entity's role is temporary in nature. *First*, FCC rules and/or policies should provide that the Entity's frequency coordination functions will cease at such time as its participation is no longer deemed necessary to avoid interference with licensed microwave systems. *Second*, those rules and/or policies should provide for the orderly dissolution of the Entity itself upon full recovery of relocation costs, reimbursement of all capital contributions and retirement of all debt. These provisions would ensure that the Entity does not outlive its usefulness and become an administrative and economic burden to all parties involved.

#### **5. Marketing of Dual Use Phones and Other Devices and Systems Capable of Nomadic and Non-Nomadic Operation**

Certain unlicensed PCS devices and systems may operate both utilizing a fixed infrastructure and on a pure nomadic or mobile basis. The Commission's equipment authorization rules for non-nomadic devices and systems should allow for the marketing of such devices and systems provided there has been full compliance with applicable technical requirements and the requisite frequency coordination has been obtained from the Entity. Such devices and systems

may only operate in a nomadic capacity in the unlicensed spectrum after full band clearing has occurred.

**6. Marketing of Devices and Systems that Operate In Both Licensed and Unlicensed Spectrum**

The Commission's rules should also recognize that some unlicensed PCS devices and systems may operate in both licensed and unlicensed spectrum.<sup>28</sup> In order to operate on a licensed basis, those devices and systems must comply with the applicable technical requirements in effect for licensed services. Similarly, deployment on an unlicensed basis would be permitted prior to band clearing if the device or system complied with the technical and prior coordination requirements in place for non-nomadic unlicensed operation or, after band clearing, in accordance with the requirements applicable to nomadic unlicensed operation. In sum, FCC rules should not unduly restrict deployment of nomadic devices and systems capable of both licensed and unlicensed operation provided that any such devices and systems fully comply with the all applicable technical and coordination requirements.

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<sup>28</sup> Although the proposed rules pertain solely to *unlicensed* PCS devices and systems, UTAM wishes to clarify that any equipment appropriately certified for licensed use should also be approved for unlicensed use provided that it fully complies with the technical and coordination requirements for unlicensed PCS devices and systems.

## VI. CONCLUSION

The unlicensed PCS industry's recommendations, as embodied in this *Report*, offer a sensible and equitable solution to the difficult problems associated with deploying new unlicensed technologies. The proposed Entity, created to fund and manage microwave relocations from the unlicensed spectrum and resolve interference concerns prior to full band clearing, would provide a coherent, centralized means to undertake a process rife with complexity.

Despite a demonstrated commitment to resolving the problems it faces, the unlicensed device industry cannot succeed alone. Timely FCC action in endorsing and adopting the Committee's recommendations is critical to the success of the microwave relocation effort and, ultimately, to the viability of important new unlicensed personal communications services.

Respectfully submitted,

UNLICENSED PCS AD HOC COMMITTEE  
FOR 2 GHz MICROWAVE TRANSITION AND  
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## **Participants in the Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management:<sup>1</sup>**

### **Companies**

AT&T  
Alcatel  
Ericsson Business Communication Systems  
IBM  
Intel  
Locate  
Metrocall  
Motorola  
Northern Telecom  
Omnipoint  
Rolm  
Rose Communications  
Telesciences  
US West

### **Organizations**

NATA  
Telocator

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<sup>1</sup> The attached proposal represents the consensus views of the Committee and should not be ascribed to any individual member. Not all members may agree with all aspects of the *Report*, and individual members reserve the option of taking alternative positions.

## **Unlicensed PCS Ad-Hoc Committee for 2 GHz Microwave Transition and Management**

### **1. SCOPE**

- 1.1 The Unlicensed PCS Ad-Hoc Committee for Microwave Transition ("the Ad Hoc Committee") will propose governing policies for microwave migration and will investigate the creation of an independent entity that will be responsible for administering aspects of clearing the unlicensed band.

### **2. CHARTER OF THE AD HOC COMMITTEE**

- 2.1 To develop, review and recommend the steps in creating an independent entity that will be chartered to effect transition of the Emerging Technologies unlicensed spectrum.
- 2.2 To document industry consensus concerning the formation of this entity and submit this documentation to the FCC.
- 2.3 To be the Unlicensed-PCS Industry forum in establishment of an independent agency/commission/group chartered to effect transition of the Emerging Technologies unlicensed spectrum.

### **3. MEMBERSHIP**

— The Ad-Hoc Committee is open to any party with a material interest in the issues related to the relocation of incumbent microwave licensees from the spectrum allocated by the FCC for unlicensed PCS devices.

- 3.1.1 This includes, but is not limited to, companies planning to manufacture, sell or distribute unlicensed PCS products and services.
- 3.1.2 Also included are associations or coalitions of companies with an interest in the manufacture, sale or distribution of unlicensed PCS devices and entities engaged in the manufacture, planning, engineering or installation of microwave systems.

— Because of the nature of the recommendations to be made by the Ad-Hoc Committee, participation generally will consist of management-level representatives from the various, interested companies. All participants are responsible for ensuring that the nature and content of their input to Committee discussions and votes reflects the position and views of the company they represent.

## **Unlicensed PCS Ad-Hoc Committee for 2 GHz Microwave Transition and Management**

### **4. MEETINGS**

- 4.1 All meetings of the Ad-Hoc Committee shall be open to all interested parties.
- 4.2 In order to encourage maximum participation in discussions and in order to avoid inhibiting the interchange of ideas, the press shall be excluded from meetings of the Ad-Hoc Committee and its working groups.

### **5. CONSENSUS**

- 5.1 Decisions of the Ad-Hoc Committee shall be reached on a consensus basis.
- 5.2 The purpose is to attempt to reach and document consensus for submission to the FCC. The Ad-Hoc Committee is not intended to discuss joint commercial action. Each participant acts unilaterally. Each participant will present its own views and make its own business decisions.



## **Unlicensed PCS Ad Hoc Committee for 2 GHz Microwave Transition and Management**

### **Consensus Principles<sup>1</sup>**

1. Ultimately, there is a requirement for clear spectrum for the viable deployment of Unlicensed PCS, i.e. unlicensed devices.
2. There is a requirement for a mechanism to clear the spectrum for Unlicensed PCS.
3. The clearing mechanism should include an industry entity.
4. In order to facilitate the early introduction of Unlicensed PCS, relocation of the 2 GHz microwave incumbents should commence immediately and be concluded as rapidly as possible.
5. Problematic 2 GHz links should have priority access to the Federal Government spectrum at 1710 to 1850 MHz.
6. The ad hoc committee supports FCC equipment authorization which requires participation in the entity.
7. The entity should be open and structured to permit participation by any party with a material interest in the relocation of microwave incumbents from the unlicensed band.
8. The entity should assume a spectrum management role during the transition, for devices deployed before the band is cleared.

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<sup>1</sup> These Principles represent the consensus positions of the Ad Hoc Committee, with individual companies reserving the option of a dissenting position.

**Proposed Rules to Govern Deployment of Nomadic/  
Non-Nomadic Unlicensed PCS Devices and Systems**

## **Subpart A – General**

### **Scope of this part**

- (a) This part sets out the regulations under which unlicensed Personal Communications Services (“PCS”) may be operated. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of unlicensed PCS devices and systems.
- (b) Unless specifically exempted, the marketing, sale or operation of an unlicensed PCS device or system that is not in compliance with the administrative and technical provisions in this part is prohibited under Section 302 of the Communications Act of 1934, as amended, and subpart I (Marketing of Radiofrequency Devices) of Part 2 of 47 CFR. The equipment authorization procedures for unlicensed PCS devices and systems are detailed in subpart J of part 2 of the Commission’s rules and subpart B of this section.

### **Definitions**

- (a) **Unlicensed Personal Communications Services (unlicensed PCS).** A broadly defined and flexible family of wireless data, voice and messaging systems and devices authorized pursuant to this subpart.
- (b) **Unlicensed PCS spectrum.** The spectrum allocated for unlicensed PCS.
- (c) **Unlicensed PCS coordinating entity (Entity).** An Entity established under 47 U.S.C. § 332 to fund and manage the relocation of 2 GHz microwave licensees from the unlicensed PCS spectrum to alternative spectrum or facilities and to engage in frequency coordination to prevent interference to fixed microwave services from unlicensed PCS devices and systems.
- (d) **Relocation cost compensation.** Fees or other monetary levies that persons must agree to pay the Entity. Such fees will be assessed on an equitable basis in accordance with the relocation cost compensation mechanism established by the Entity.
- (e) **Coordination fees.** Fees assessed by the Entity for coordination of non-nomadic devices and systems prior to deployment.

- (f) **Non-nomadic unlicensed PCS device or system.** A fixed unlicensed PCS device or system intended for one-way or two-way communications over limited geographic areas such as a single office building. Non-nomadic systems shall also include associated portable devices provided that the portable devices have been designed to operate only within the service area of the fixed non-nomadic base station.
- (g) **Nomadic unlicensed PCS device or system.**  
Any unlicensed PCS device or system that is not described by (f) above.

## **Subpart B – Equipment Authorization Requirements**

- (a) **Equipment authorization.** Except as otherwise exempted, unlicensed PCS devices and systems shall meet the technical criteria established for operation and shall be authorized by the Commission prior to the initiation of marketing, sale or operation, as follows:

Type of system	Equipment authorization required
[list type of unlicensed PCS system]	[type acceptance/or certification]

- (b) **Certification of agreement to participate in relocation cost compensation mechanism established by Entity.** In addition to complying with the procedures in subpart J of part 2 of the Commission's rules, no unlicensed PCS device or system may be marketed, sold or operated absent certification to the FCC of agreement by the party seeking authorization to participate in the relocation cost compensation mechanism established by the Entity and payment of other coordination fees where required.
- (c) **"Sunset" of relocation cost compensation requirements.** Certification of participation in the Entity's relocation cost compensation mechanism will no longer be required at such time as all relocation and associated financing costs have been fully recovered by the Entity.

## **Subpart C – Additional Requirements For Non-Nomadic Unlicensed PCS**

- (a) **Frequency coordination.** Any user of a non-nomadic unlicensed PCS device or system must seek and obtain frequency coordination from the Entity before initially deploying or subsequently relocating any device or system. Coordination fees may be assessed by the Entity for coordination of initial deployment or subsequent relocation.
- (b) **Labelling and informational requirements.** Non-nomadic unlicensed PCS devices and systems shall not be marketed, sold or operated unless the base station bears, in a conspicuous location, a label specifying that operation is subject to the following conditions: (1) the device or system may not cause interference to licensed microwave services; (2) the device or system must accept any interference received from licensed microwave services; (3) the user may not change materially the location, frequency or parameters of operation of any such base station absent prior coordination with the responsible Entity; and (4) in the event harmful interference to licensed microwave operations results, the user must take all necessary steps to cure such interference at the user's own expense and may be liable for failing to do so. These instructions should also be placed in a prominent location in the text of the user manual.
- (c) **Dual use unlicensed PCS devices and systems.** Non-nomadic unlicensed PCS devices and systems that are also capable of operation on a pure nomadic basis may be deployed in accordance with appropriate restrictions under this subpart.
- (d) **Nomadic PCS devices and systems operating in licensed and unlicensed spectrum.** Nomadic PCS devices and systems that are capable of operation in both licensed and unlicensed spectrum may be deployed in accordance with appropriate restrictions under this subpart.
- (e) **"Sunset" after band clearing.** At such time when full deployment of unlicensed PCS devices and systems is no longer deemed to pose a risk of interference to microwave operations, the additional requirements set forth in this subpart shall no longer apply.